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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/411,629	10/01/1999	WATARU NARA	0557-4784-2	8585
22850	7590	12/20/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TRAN, NHAN T	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/411,629

Applicant(s)

NARA, WATARU

Examiner

Nhan T. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5, 7, 8, 13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5, 7, 8, 13 and 15-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/28/2005 with respect to claims 5, 13, 17 & 19 have been fully considered and are persuasive. However, upon further consideration, these claims are moot in view of the following new ground of rejection.

2. Applicant's arguments filed 11/28/2005 with respect to claims 7, 8, 15, 16, 18 & 20 have been fully considered but they are not persuasive.

Regarding independent claims 7 & 15, each of these claims was previously rejected as being anticipated by Bilhan et al (US 6,791,607 B1) under 35 USC 102(e). Claims 7 & 15 **do not** require the limitations of "*wherein the black reference level for a respective line is an average of pixel values in a main scan direction, the moving average being obtained from moving-averaging in a sub-scan direction, the black reference values.*" as required in claims 5 & 13. The Applicant does not address any relevant feature or limitation of claims 7 & 15. It is clear that Bilhan anticipates claims 7 & 15. Thus, the rejection of claims 7 & 15 is maintained.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 9/6/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 7 & 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Bilhan et al (US 6,791,607).

Regarding claim 7, Bilhan discloses an image reading apparatus (Figs. 5 & 7 and abstract) comprising:

photoelectric conversion means (CCD) for photoelectrically converting image information obtained from optically reading an original image, line by line, and outputting an image signal, the photoelectrically converting means having optically shielding means (optical black pixels) provided at a portion thereof (see Fig. 6 and col. 4, lines 20-40);

black shading correction means (circuitry shown in Figs. 5 & 7) for correcting the image signal using a black reference level ($OB_{average}$ output from digital average 512), the black reference level being obtained from the portion of the electrically converting means for each line during an operation of the reading of the original image, wherein the black reference level used by the black shading correcting means for each line is obtained using black reference values (values of optical black pixels), each of the black reference values being data of the portion of the photoelectrically converting means for a respective one of a plurality of lines, wherein the

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black reference level for each line ($OB_{average}$ output from digital average 512) is obtained from a moving-averaging of the black reference values (values of optical black pixels) for the plurality of lines. See col. 4, line 66 – col. 5, line 67.

Regarding claim 15, see the Examiner's analysis in claim 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 & 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bilhan et al (US 6,791,607).

Regarding claim 5, Bilhan discloses all limitations of claim 5 (see the analysis of claim 7 for the same limitations) but does not clearly disclose that the black reference level for a respective line is an average of pixel values in a main scan direction, the moving average being obtained from moving-averaging in a sub- scan direction, the black reference values. However, Bilhan clearly suggests that **the user can program the number of black cells per line and the number of lines to be averaged by calibration logic 714 (col. 5, lines 48-50)**. Bilhan also teaches scanning of the CCD sensor by horizontal and vertical scanning method in col. 5, lines 43-45. From the technical view, *a main scan direction* is represented by the horizontal scan

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direction and a sub-scan direction is presented by the vertical scan direction. Bilhan further teaches that for each line, ADC 710 outputs a signal corresponding to the sampled optical black levels which are averaged by the digital block (col. 5, lines 46-48).

Therefore, it would have been obvious to one of ordinary skill in the art to quickly recognize the scanning directions and to take the advantage of **the flexibility in the program** used in Bilhan **to program** the imaging apparatus such that the black reference level for a respective line is an average of pixel values (average of the number of black pixels per line) in a main scan direction (horizontal direction) and the moving-averaging is obtained from moving-averaging (average of the number of lines), in a sub-scan direction (vertical direction), the black reference values so as to enable an alternative configuration having similar features for black level correction without departing the scope of the invention as suggested by Bilhan in col. 7, lines 41-48.

Regarding claim 13, see the Examiner's analysis in claim 5.

6. Claims 8, 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bilhan et al (US 6,791,607) in view of Barron et al (US 5,659,355).

Regarding claim 8, Bilhan teaches that the imaging apparatus is highly programmable and the user can program *the optical black pixels per line* and *the number of lines to be averaged* by calibration logic 714 (col. 5, lines 46-50). However, Bilhan is *silent* about the number of lines comprising the current line and preceding lines. Barron teaches averaging of black

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reference values by using a plurality of lines that comprises the current line and preceding lines (e.g., first 4 lines including preceding 3 lines and current 4th line, or first 8 lines including preceding 7 lines and current 8th line, etc...) so that a more accurate calculation for black level compensation is established. See Barron in col. 3, line 60 – col. 4, line 23.

Therefore, it would have been obvious to one of ordinary skill in the art to program the imaging apparatus in Bilhan to average a predetermined number of lines that comprises the current line and preceding lines to obtain a more accurate calculation for the black level correction.

Regarding claim 16, see the Examiner's analysis in claim 8.

Regarding claims 17-20, see the Examiner's analysis in claim 8. Furthermore, the combined teachings of Bilhan and Barron would also teach the data ~~of teach~~ of the predetermined number of immediately antecedent lines comprising an average taken through a relevant line since optical black pixels in each line are averaged in the main scan direction before the total number of lines to be averaged again in the sub-scan direction as analyzed in claim 5 (see Bilhan in col. 4, line 66 – col. 5, line 2 and col. 5, lines 46-50).


12/16/05

Conclusion

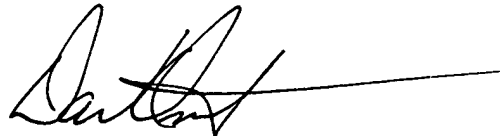
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.

A handwritten signature in black ink, appearing to read 'David Ometz', with a long horizontal line extending to the right.

DAVID OMETZ
SUPERVISORY PATENT EXAMINER